

WHAT IS CLAIMED IS:

1. An electro-optical device, comprising:
 - a plurality of scanning lines;
 - a plurality of data lines;
 - a plurality of pixels corresponding to intersections of the scanning lines and the data lines, each of the pixels having a storage device to store data, a driving element to set a driving current flowing from a first power supply line to a second power supply line, and an electro-optical element to emit light with a brightness in accordance with the set driving current;
 - a scanning line driving circuit to select the scanning line corresponding to a pixel in which data is to be written by outputting scanning signals to the scanning lines;
 - a data line driving circuit to output data to the data line corresponding to the pixel in which data is to be written in cooperation with the scanning line driving circuit; and
 - a power supply line control circuit to perform impulse driving of the electro-optical element by setting the electric potential of at least one of the first power supply line and the second power supply line to be variable and alternately and repeatedly applying a forward bias and a reverse bias to the electro-optical element during a period of time from the moment in which the scanning line corresponding to the pixel in which the data is to be written is selected, to the moment in which the same scanning line is selected again.
2. The electro-optical device according to Claim 1,
 - the power supply line control circuit setting the electric potential of the second power supply line to be lower than the electric potential of the first power supply line when a forward bias is applied to the electro-optical element and setting the electric potential of the second power supply line to be no less than the electric potential of the first power supply line when a reverse bias is applied to the electro-optical element.
3. The electro-optical device according to Claim 1,
 - the power supply line control circuit setting the electric potential of the first power supply line to be higher than the electric potential of the second power supply line when a forward bias is applied to the electro-optical element and setting the electric potential of the first power supply line to be no more than the electric potential of the second power supply line when a reverse bias is applied to the electro-optical element.
4. The electro-optical device according to Claim 1,
 - the power supply line control circuit setting the electric potential of the first power supply line to a first electric potential and setting the electric potential of the second

power supply line to a second electric potential lower than the first electric potential when a forward bias is applied to the electro-optical element, and setting the electric potential of the first power supply line to a third electric potential lower than the first electric potential and setting the electric potential of the second power supply line to a fourth electric potential no less than the third electric potential when a reverse bias is applied to the electro-optical element.

5. The electro-optical device according to Claim 1,
the power supply line control circuit providing a delayed period of time after the selection of a certain scanning line is stopped until the selection of the next scanning line starts, and performing impulse driving of the electro-optical element during each corresponding delayed period of time.

6. The electro-optical device according to Claim 1,
the power supply line control circuits being provided in units of the scanning lines, and

each of the power supply line control circuits performing impulse driving of the electro-optical elements of a row of pixels corresponding to the scanning line in synchronization with the selection of the scanning line corresponding to the corresponding power supply line control circuit.

7. The electro-optical device according to Claim 1,
each of the pixels further comprises:
a control element provided in the current path of the driving current and the luminescence of the pixel being controlled when data is written by controlling the electrical connection of the corresponding control element.

8. An electronic apparatus equipped with the electro-optical device according to Claim 1.

9. A method of driving an electro-optical device including a plurality of pixels arranged corresponding to intersections of scanning lines and data lines, a scanning line driving circuit for selecting the scanning line corresponding to a pixel in which data is to be written by outputting scanning signals to the scanning lines, and a data line driving circuit for outputting data to the data line corresponding to the pixel in which data is to be written in cooperation with the scanning line driving circuit, the method of driving the electro-optical device comprising:

outputting data to the data line corresponding to a pixel in which data is to be written and of writing data in the pixel in which data is to be written; and

setting a driving current flowing from a first power supply line to a second power supply line in accordance with data written in the pixel and of supplying the driving current to a current-driving-type electro-optical element emitting light with the brightness in accordance with the driving current; and

performing impulse driving of the electro-optical element by setting the electric potential of at least one of the first power supply line and the second power supply line to be variable and alternately and repeatedly applying a forward bias and a reverse bias to the electro-optical element during a period of time from the moment in which the scanning line corresponding to the pixel is selected to the moment in which the same scanning line is selected again.

10. The method of driving the electro-optical device according to Claim 9, the third step comprises:

setting the electric potential of the second power supply line to be lower than the electric potential of the first power supply line when a forward bias is applied to the electro-optical element; and

a step of setting the electric potential of the second power supply line to be no less than the electric potential of the first power supply line when a reverse bias is applied to the electro-optical element.

11. The method of driving the electro-optical device according to Claim 9, the third step comprises:

setting the electric potential of the first power supply line to be higher than the electric potential of the second power supply line when a forward bias is applied to the electro-optical element; and

setting the electric potential of the first power supply line to be no more than the electric potential of the second power supply line when a reverse bias is applied to the electro-optical element.

12. The method of driving the electro-optical device according to Claim 9, the third step comprises:

setting the electric potential of the first power supply line to a first electric potential and of setting the electric potential of the second power supply line to a second electric potential lower than the first electric potential when a forward bias is applied to the electro-optical element; and

setting the electric potential of the first power supply line to a third electric potential lower than the first electric potential and of setting the electric potential of the

second power supply line to a fourth electric potential no less than the third electric potential when a reverse bias is applied to the electro-optical element.

13. The method of driving the electro-optical device according to Claim 9, in the third step, a delayed period of time is provided after the selection of a certain scanning line is stopped until the selection of the next scanning line starts, and impulse driving of the electro-optical element is performed during each corresponding delayed period of time.

14. The method of driving the electro-optical device according to Claim 9, in the third step, impulse driving of the electro-optical elements of the row of pixels corresponding to the scanning line is performed in units of the scanning lines in synchronization with the selection of the scanning line.